

ABSTRACT

[067] The present invention is directed to methods for inhibiting the growth of disease organisms, particularly fungi and bacteria, on plant tissues. The present invention is also directed to methods for inhibiting the infestation of plants by insects and larva, particularly sucking and chewing insects. These methods are achieved by applying an auxin or a plant growth regulator (PGR) which will effect the level of auxin in the plant tissue to the seeds or tubers of the plant prior to planting or to the roots, foliage, flowers or fruit of the plant after planting. The auxin or PGR is applied in an amount effective to inhibit growth of the disease organisms or insects, but in an amount insufficient to negatively effect growth of the plant tissues. The auxin may be applied as a natural auxin, synthetic auxin, auxin metabolite, auxin precursor, auxin derivative or a mixture thereof. The presently preferred auxin is indole-3-acetic acid (IAA). The auxin or PGR may be applied to the seeds, tubers or plant tissues. Seeds or tubers may be sprayed with or immersed in an aqueous solution containing the auxin or PGR. Conventional spraying and drip irrigation systems may be used to apply an aqueous solution containing an auxin or PGR to plant tissues. The auxin or PGR may also be applied to the plant tissues as a powder or may be encapsulated within a biologically compatible material to provide slow release to the roots of the plant. The plant tissues may be dusted with a powder, including the auxin or PGR. The encapsulated auxin may be placed in the root zone for uptake of the auxin or PGR by the roots.